



Collecting Native Seed

Individual landholders and community groups can collect their own seed for planting in revegetation projects. For saltland revegetation we now have a native seed resource found in the thousands of hectares already planted, and collecting seed of these species is cheap and simple.

Using locally-sourced seed for a revegetation project improves the chances that the project will be successful, provided the seed is collected from populations of at least 100 individuals of a species (a population of 200 individuals would be better). Seed collected from local plants growing in similar soil conditions typically results in increased survival of the new generation and there are cost savings compared to purchasing seed.

Seed of species that are difficult to collect can be quite expensive to purchase, but there may be opportunities for landholders. For example the seed-bearing branches of salmon gum are very high, and there is only a 24-hour window after a branch falls to collect the seed. There are landholders that have very good stands of salmon gum. If a branch fell spontaneously a landholder could collect their own seed.

There are no legal restrictions to collecting from your own farm; however written permission from the owner or manager is required to collect from someone else's land. A commercial licence is needed if the purpose of collecting seed is to sell it. A scientific or other purposes licence is needed to collect seed from government (Crown) land.



PLANNING

Give yourself plenty of time, at least 12 months before the targeted time for revegetation planting, for project planning, seed collection and seedling propagation.

Once you have mapped the area and decided on the plant species list for the project, you can work out the total amount of seed of each species needed. You may ultimately need a combination of collected seed and purchased seed/seedlings to produce a biodiverse site with a range of species. There are some species that are best planted as nursery-raised seedlings/rooted cuttings (eg *Adenanthos* and *Lambertia* species).

It is worth considering supplementing your revegetation project with other seed/seedlings that are bought in, in case your seed collecting is not successful, but even bought-in seed should be sourced as locally as possible.

Some examples of species that are relatively easy to collect because they hold onto their seed include sheoaks, bottlebrushes, wandoo, mallees and melaleucas.

Learn the size and appearance of the seed/seed-bearing fruit of each species you intend to collect. Some native plant seed is very fine, and the challenge can be to ensure you are collecting the material that is seed, because some of the seed is very small, almost like dust. Also, learn the best time for collection and how the seed of the species needs to be processed.

Survey the project site to locate nearby populations of plants of your target species that are growing well in the conditions at the site and that have potential to supply seed; they can be marked with surveyor's tape.



WHEN TO COLLECT

Collect seed close before the time you intend to plant; this will usually be the spring/summer before seeding. Early March is the cut-off if you intend to grow the seed to plant seedlings in the same year.

Species that shed seed annually should be harvested as soon as the fruits change colour to brown and become brittle, which occurs between October and December depending on the weather. Collect as the fruit begin to open or fall naturally. Seed-shedding species include grevilleas, wattles and some eucalypts.

Species that hold their seeds in woody fruit may have their fruit collected at any time. However collecting in summer is easiest for air-drying to extract the seed. The best time to process banksia fruit is when there are no fire restrictions. Species with woody fruit include banksias, sheoaks, hakeas, some eucalypts and melaleucas.



WHAT TO COLLECT

Collect seed from the local area from plants growing in a similar soil type and plant community to your planned project. Species that shed seed can be collected by placing a tarpaulin under the plant and shaking the branch vigorously. Branches of seed-bearing fruit can be harvested and dried.

It is better to collect a little seed from lots of plants than lots of seed from a few plants to increase genetic diversity and viability of revegetation. When collecting seed, try not to damage the plant any more than necessary; take less than half the seed from any one plant unless it has blown over.

According to Bradshaw and Woodall (2014), the highest quality revegetation sites grow from seed that is collected from species in stands with large populations (more than 100-200 plants). If large populations are not available, mix seeds collected from several smaller populations to ensure high genetic diversity. Try to source seed from stands as close as possible to the planned revegetation site.

Research has shown that population size and isolation play important roles in determining the persistence of remnant vegetation. Small populations (less than 100-200 reproductive plants) are highly susceptible to declining seed production, loss of genetic diversity, increased inbreeding leading to poor seedling vigour and increased hybridisation. Maintaining large reproductive populations (more than 100-200 individuals), minimising the distance between populations and managing populations on the landscape level rather than as independent groups of plants is recommended (Broadhurst, 2007).



PROCESSING

Place harvested material in a warm, dry place to air-dry, either spread out on sheets of paper or a tarpaulin or in paper bags depending on the volume of material, with a little insect control dust or spray. In warm dry weather conditions, bulk material can be placed on plastic sheet in the paddock and covered with a second sheet weighted down (see Figure 2 on back). Smaller amounts of vegetation can be dried in an open paper or plastic bag placed in a warm dry place e.g. on the back seat of a car.

Whatever the container for the fresh material, good ventilation is important to let moisture escape and prevent mould growth. The drying period, depending on the weather, may be four or five days or up to three weeks for fruits to open. For many species the seed can then be smashed out of the dry seedpods.

During periods when open fires are allowed, seed in the woody fruit of banksia and dryandra may be extracted by placing the fruit base-down in coals of a small fire (Hussey and Wallace, 2009). As soon as some follicles open, use tongs to lift the fruit from the fire and shake out the seeds. The process is repeated until all follicles have opened. Alternatively, wetting and drying banksia cones can assist with seed release.

Hussey and Wallace (2009) advise that wattles and peas need heat treatment or mechanical scarification before they will germinate. One method to do this is to pour boiling water over the seeds, leave for a few minutes then strain. The seed can then be sowed, or it can be air-dried and stored to sow at a later date.

There are commercial native seed businesses that have the facilities to do the seed preparations that are needed like scarifying or smoking. North Stirlings Pallinup Natural Resources can provide information on this.

Store dry seed in sealed, clean, dry containers such as glass jars or plastic tubs. A little insect control dust can be added in case there are insect eggs on the seed.



SAFETY AND BIOSECURITY

Take appropriate safety precautions when operating machinery. Be aware of biosecurity, particularly not to transport dirt that could contain dieback between sites.



SEED-COLLECTING CHECKLIST

- Acquire appropriate licence if needed
- Identify suitable trees/shrubs and mark them with surveyor's tape
- Harvest when seedpods are well-formed and change colour and start to fall by themselves (or harvest woody fruits in summer)
- Equipment:
 - Tarpaulin to collect seedpods; or pruners, hand saw, brushcutter or chain saw for cutting branches
 - Box trailer or ute to transport the seed-bearing branches
 - Paper bags, or black plastic sheet to lay the branches on for drying and collection of the seed
 - Insect control dust or spray
- Dry seed-bearing branches, managing pests that might eat the seed
- Collect the seed, package and label
- Process the seed (eg smoking or scarifying as appropriate for the species)
- Plant the seed



Figure 1

Harvested branches of *Melaleuca* on plastic.



Figure 2

Harvested seed-bearing branches under plastic to dry in the paddock.



Figure 3

Drying branches dropping seed onto the plastic.

REFERENCES

- Bradshaw, W and Woodall, G 2014, *North Stirlings and Pallinup River Catchments Revegetation Guide*, NSPNR, Borden.
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FOR MORE INFORMATION

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